

Patent Application Serial No. 10/566,987

REMARKS

The amendments are made for clarity. The new claims are supported as follows: claim 11 is supported at page 5, line 7; claim 12 at page 3, lines 25-26; claims 13-15 in the Abstract and in Fig. 4; and claim 16 is supported in paragraph 0008 on page 3. Also, paragraph 0033 supports the claims. The new claims are patentable for the reasons below.

In response to the outstanding Office Action:

(1) The Examiner explains that prior art, which was already cited but not applied in a rejection, is now applied in a rejection. The Applicant notes for the record that this implies marginal applicability of this art.

(2) The title was objected to for being too generic. The title is amended to "Image Pickup Device With Half-Shutter Alert."

(3) Claim 8 was objected to for a typographic error. The error is corrected. The Examiner is thanked for considering the claim despite the technical error by the Applicant.

(4) The Examiner asserted that claims 7 and 8 are almost identical. The claims as amended are no longer identical.

(5-7) Claim 1 is rejected under 35 U.S.C. §103(a) as being obvious over Ito, JP 05-083625, in view of Konno, JP 06-175208. This rejection is respectfully traversed.

(For the Examiner's reference, an improved translation of portions of Ito and Konno is attached.)

As to Ito:

(1) The Examiner asserts that Ito's flash plate 8 is "for visually notifying a subject that [taking] a still image is to be performed" (first paragraph of ¶ 7 on page 3). However, there is no support for this assertion, because the cited paragraph [0007] does not mention anything about

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notifying the subject. It only discusses the provision of a flash 8 and movie light 9 for still and video picture lighting, their positions, the provision of a flash shoe, etc.

(2) If the flash 8 of Ito were modified so as to light up on a half-press of the still image trigger switch 6 (release button) of Ito, the flash 8 of Ito could not light the subject when the still image then were taken, unless special provisions were made (such as multiple capacitors, etc.), because the first flash would deplete the capacitor and prevent the flash from working when it was needed. No such special provisions are seen or asserted. Considering the reference itself (i.e., without importing any features into it), it would be useless and unnatural to modify the flash 8 to fire on both of a half-press and a full-press of the trigger switch 6.

(3) Paragraph [0007] of Ito describes that use of the flash 8 depends on the photographic conditions. It is well know, for example, that no flash is needed when there is enough ambient light. When the flash 8 is not needed, the flash 8 of Ito does not light up even if the still image trigger switch 6 (i.e. release button) is pressed.

In sum, there is no disclosure or teaching in Ito itself of "a first notifying means for visually notifying a subject that a photographic operation of a still image is to be performed."

(4) Figs. 5, 10, and 11 of Ito shows the lighting device 10 attached to the camera body 1 (Fig. 1, for example). The lighting device 10 comprises a flash part 11 and a movie-light part 12. Fig. 9 shows a block diagram of one embodiment of Ito; the flash light-emitting part 11 and the movie light-emitting part 12 of Fig. 5 correspond to the flash 40 and the movie light 38 of Fig. 9, respectively.

Paragraph [0013] of Ito explains that the movie light can be utilized as an auxiliary light for focusing when a still image is to be taken. In this mode, when the still image trigger switch 6 is pressed halfway, the movie light is turned on, and when the trigger switch 6 is fully pressed

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after focusing, the movie light is turned off. This disclosure of Ito does not amount to “a first notifying means for visually notifying a subject that a photographic operation of a still image is to be performed when a release button is pressed half-way down during the photography of the moving image” as claimed, because (1) the light is not provided “during the photography of the moving image” and (2) the light is not intended for notifying and does not convey any such information.

The light that is used for focusing is not directly related to taking the image. A photographer often will focus and then make other adjustments, and only at last take the picture. There is no more direct connection between focusing and taking the picture than there is between changing the batteries and taking a picture; both are necessary preliminaries, but not direct antecedents. Putting the batteries is not a notification, and neither is focusing (and therefore, neither is the Ito focusing light).

(5) The movie light of Ito is, of course, used during moving-image photography in low light conditions. Referring to paragraph [0012] of Ito, when the power switch is on and the camera is in the movie-light use mode, pressing the moving image trigger switch 5 actuates the system controller 41 so that moving-image photography is started and the movie light 38 is turned on. Paragraph [0012] of Ito discloses that the movie light 38 can be configured so as to be automatically turned on based on brightness information from the AE circuit 27. Therefore, when the movie light is already lit up for photography of a moving image and the still image trigger switch 6 (i.e. release button) is pressed half-way down during the photography of the moving image, the movie light of Ito will *remain* lit up for providing auxiliary light.

In this regard, Ito does not provide the claimed “first notifying means for visually notifying a subject that a photographic operation of a still image is to be performed when a

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release button is pressed half-way down during the photography of the moving image,” as recited in claim 1, because it is steady, and a steady light can convey no information. Thus, the movie light cannot anticipate the first notifying means of claim 1, because the movie light remains to lit up during the photography of the moving image, when ambient light is low and the movie light is used for providing its prime function.

As to Konno:

The Examiner asserts that Konno discloses that it is well known in the art to emit a light or blink an exposure of light upon the half-press of a shutter button during the capture of a still image. The Examiner also asserts that Konno “appears to show that upon the half press of a shutter button the information that promotes the consciousness effect is emitted.” The Examiner cites Fig. 9 of Konno in the Office Action.

As described in paragraphs [0007] and [0008], Fig. 9 illustrates apparatus that records the voice of the mother M in the memory circuit 5 and transmits the voice to the subject (infant).

It is true that Konno discloses (paragraphs [0006] and [0017]) a light-emitting element, and that light is transmitted to the subject in order to direct attention of the subject to the photographer. Paragraph [0015] and Fig. 5 teach that while the switch 1 of the photo apparatus is on in S104, the perceptual operation (emission of sound) is performed in S105. Paragraph [0015] and Fig. 5 also teach that if the switch 2 is additionally turned on in S106 (that is, if both of the switches 1 and 2 are on), the photographing operation is performed in S107. Fig. 6 shows a flowchart of the case that the generation mean 1 is a light-emitting element. Fig. 6 is almost the same as Fig. 5 except that the steps are related to voice recording.

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However, the term “half-press” and its synonyms are written nowhere in the specification, claims, abstract, and figures of Konno. Konno does not disclose that “it is well known in the art to emit a light or blink an exposure of light upon the half-press of a shutter button during the capture of a still image” because Konno does not disclose any “half-press.”

Fig. 9 of Konno shows the five different states of the photographing apparatus. In Fig. 9, “SW1 ON” is appended to the center lower view of the photographing apparatus and “SW1 ON” and “SW2 ON” are appended to the right lower view of the photographing apparatus. In the center lower view, the voice of the photographer M is transmitted to the subject. In the right lower view, the photographing operation is performed. In these views, a switch or button is depicted as the rectangular area pressed by a finger. However, the rectangular area pressed by a finger is the *same* between the center lower view and the right lower view. Therefore, Fig. 9 does not illustrate both a half-press and full-press of a release or shutter button.

As to claim 12

In the first office Action, the Examiner indicated that “Ito discloses that the first notifying means is a flash (flash plate 8) that pops up when the release button is pressed.” However, Ito does not disclose such a flash, that is, the flash lamp device of new claim 12 (see paragraph [0007] of Ito).

(8-9) Claim 4 is rejected under 35 U.S.C. §103(a) as being obvious over Ito and Konno in view of Havashi, US 6,944,345. This rejection is respectfully traversed on the grounds above.

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(10-11) Claims 7 and 8 are rejected under 35 U.S.C. §103(a) as being obvious over Ito and Konno in view of Dow, US 2004/0090533. This rejection is respectfully traversed on the grounds above.

In view of the aforementioned amendments and accompanying remarks, the application is submitted to be in condition for allowance, which action is requested.

Respectfully submitted,

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Signature



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ITO

[0006]

[Function]

According to the present invention, the generation means of the information or stimulation promoting a perceptual effect by the generation of melody, voice, turning-on/ blinking/irradiation of light, motion of an object, or aroma from the photographing apparatus is provided, and the information or stimulation is transmitted to the subject from this generation means to thereby direct attention of the subject to the photographer side, or promote similar interest of the subject even when the photographer changes.

[0007]

[Embodiments]

Fig. 1 shows a block diagram of a photographing apparatus as a first embodiment of the present invention. In Fig. 1, reference numeral 1 denotes generation means for transmitting perceptual information of a sounding element, a light-emitting element, a generating element of aroma or the like, 2 denotes a drive circuit that drives the generation means 1, 3 denotes a circuit and/or a unit for performing photographing operation, 4 denotes a circuit that controls a system of the entire photographing apparatus, and 5 denotes a memory circuit that accumulates and/or holds data or a signal from the generation means 1. Moreover, Fig. 5 is a photographing flowchart of the first embodiment. Next, Figs. 9 to 14 are diagrams illustrating specific examples of the first embodiment of the present invention. Hereinafter, operations of respective parts of Fig. 1 are described with reference to Figs. 5 and 9.

[0008]

The switch 1 is turned on before photographing and/or during photographing, and a voice of a photographer M (mother) is recorded on the memory circuit 5 through the generation means (sounding element) 1. The operation is such that when attention of a subject (infant) scatters, or when the photographer is changed from the photographer M (mother) to a photographer P (father), so that the subject (infant) is uninterested in the photographer P (father), the photographer P (father) selects a perceptual operation mode to transmit the voice of the photographer M (mother), which has been recorded on the memory circuit 5, to the subject (infant) through the generation means (sounding element) 1.

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[0015]

Next, the operation of the first embodiment is described with reference to the flowchart of Fig. 5. In Fig. 5, S101 (hereinafter, S means a step) is a step of selecting a photographing state of the photographing apparatus in S101 to S107, or an unphotographing state thereof in S1000 by ON/OFF of the main switch. In S101, when the main switch of the camera is turned on to select the photographing state, the entire system of the photographing apparatus enters an initial state. In this state, turning on the switch 1 in the S503 moves the processing to a subroutine A of recording the voice of the photographer M (mother) on the memory circuit 5. In S102, the photographing apparatus enters a mode in which the perceptual operation for transmitting the information is selected. In S102, if the perceptual mode is not selected, the operation goes through a normal photographing flow of the photographing apparatus in S111 to S115. In step 102, if the perceptual mode is selected, the operation will go through a photographing flow bringing about the perceptual effect. In step S103, normal photographing or self photographing can be selected. If the normal photographing is selected in S103, while the switch 1 is on in S104, the perceptual operation in S105 is performed, and is continued until the switch 2 is turned on in S106, until the switch 1 in S104 is turned off, or until the main switch in S101 is turned off. In the perceptual operation in S105 and S110, the information of the memory contents in the memory circuit 5 and/or the memory sheet 5' is confirmed and utilized in step S501, and in accordance with this, the information to be transmitted to the generation means 1 by the drive circuit 2 that drives the generation means 1 in S502 is processed to output from the generation means 1, and the operation advances to the operation of the switch 2 in S106. If the switch 1 is turned off in S104, the operation does not go to S105, but returns to the perceptual mode selection in S102. If the switch 2 is turned on in S106, the operation goes to the photographing operation in S107, processing operation necessary for the photographing is performed to end the photographing in S1000. If the self photographing is selected in S103, a self timer in S108 is operated by the switch 1 and/or another condition, so that the perceptual operation (described above) in S110 is performed within a setting time of the timer. When the setting time of the timer is reached, the operation goes to S109, in which the switch 1 and the switch 2 are turned on, and the

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operation goes to the photographing operation in S107, in which the processing operation necessary for the photographing is performed, and finally, the photographing ends in S1000.

[0017]

In Fig. 6, the memory circuit 5 that stores the information transmitted from the photographer is not configured, but the photographing apparatus is operated such that melody is generated from the generation means (sounding element) 1 or light is turned on, blinked or irradiated from the generation means (light-emitting element) 1 during photographing.

KONNO

[0007]

Figs. 3 and 4 show appearances of a camera according to another embodiment, and this camera has a flash 8 built-in, which is housed when it is not used, and automatically pops up depending on a photographing condition at the time of still image photographing in use. Moreover, a movie light shoe 9 (attached member) is provided in a camera upper surface, to which the movie light can be attached from a side surface of the camera. The flash 8 may have a light emitting part originally exposed, in addition to a retractable configuration as shown in the figures. Furthermore, although not shown, the camera may be of a type which has the movie light built-in in place of the flash, or of a type in which both the flash and the movie light are provided in vicinity of each other or in different positions. In the type in which the movie light is included, a shoe for the flash may be provided.

[0012]

Next, a control method of the lighting device 10 (the movie light 38 and the flash 40 in Fig. 9) attached to the camera body 1 is described. When the power switch is on and in the movie-light use mode, pressing the moving image trigger switch 5 actuates the system controller 41, so that photographing is started and a signal is inputted to the lighting device 10 through the contact C3 of the camera body 1 (Fig. 6) to turn on the movie light 38 (to which the movie light emitting part 12 in Fig. 5 corresponds). Thereafter, when the moving image trigger switch 5 is pressed again, a signal is inputted through the contact C1 to end the photographing and turn off the movie light 38. This movie light 38 can be configured so as to be

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automatically turned on based on brightness information from the AE circuit 27. Particularly, in the case of multi-fractionated photometry, backlight including distance information may be detected to automatically turn on the movie light 38.

[0013]

Pressing the still image trigger switch 6 allows the photographing of a still image to be performed. At this time, when flash light emission is necessary depending on a photographing condition, a signal is transmitted to the lighting device 10 through the contact C1, so that the flash 40 (to which the flash light-emitting part 11 in Fig. 5 corresponds) starts the light emission, and further, a flash light-emission stopping signal is inputted to the lighting device 10 through the contact C2 from the AE circuit 27 to stop the light emission of the flash 40. If a subject is dark, dimming of the flash is performed based on the distance information of the subject, a necessary diaphragm value, and a sensitivity of the imaging part. When backlight correction is performed, the light-emission control of the flash is performed based on the distance information of the subject, a diaphragm value by fixed light, and the sensitivity of the imaging part. Particularly, when the multi-fractionated photometry is being performed, data of a portion that is determined to be of backlight is ignored or a weight thereof is reduced to find photometric data, and based on this, the light emission of the flash is controlled, thereby enabling the backlight correction. The movie light can also be utilized as auxiliary light for focusing when the still image photographing is performed. In this case, when the still image trigger switch 6 is pressed halfway, the movie light is turned on, and after focusing, when the same trigger switch 6 is further pressed, a signal is inputted to the lighting device 10 through the contact C1 to turn off the movie light. Moreover, in the case where ON timing and OFF timing of the movie light differ between a moving image and a still image, two or more types of trigger signals transmitted through the contact C3 for movie light ON may be prepared to enable the determination on the lighting device 10 side. With this constitution, for example, in the case where only the movie light is attached without attaching the flash, and when the user wants to photograph both moving image and still image, the movie light is momentarily turned on at the time of photographing of a still image, which can substitute for the flash.